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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,023	08/27/2003	James Bertram Blackmon	7784-107/ DVA	5133

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EXAMINER	
ROSSI, JESSICA	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/649,023	BLACKMON ET AL.	
	Examiner	Art Unit	
	Jessica L. Rossi	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/22/06, Amendment*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 2/22/06. Claims 1-19 are pending.

2. The rejection of claims 1 and 11 under 35 USC 102(b) as being anticipated by Chenault (US 4253895), as set forth in paragraph 2 of the previous action has been withdrawn in light of the present amendment and Applicants' remarks submitted therewith (see p. 7-8).

3. The rejection of claim 19 under 35 USC 103(a) as being unpatentable over Chenault in view of Fleischer and Stang, as set forth in paragraph 7 of the previous action, has been withdrawn in light of Applicants' remarks.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1, 6, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schreiber et al. (US 3382137).

With respect to claim 1, Schreiber teaches a method for forming a glass structure by providing a glass member 10 with a front surface and a rear surface and securing a rigid interlayer 11 to the rear surface of the glass member such that the rigid interlayer applied a compressive force to the rear surface of the glass member (Figure 1; abstract; column 1, lines 55-61; column 1, line 71 – column 2, line 3; column 2, lines 8-11 and 25-27 and 34-38 and 50-54; column 4, line 63).

Regarding claim 6, the reference teaches forming the glass member to a predetermined shape.

Regarding claim 8, the reference teaches the step of securing the rigid interlayer 11 to the glass member 10 comprising applying a resin over an area corresponding to a rear surface of the glass member and curing the resin to form the rigid interlayer (abstract).

Regarding claim 10, the reference teaches the glass member being a mirror (column 4, lines 61-63).

6. Claims 1-2, 6, 8, 10-14 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimodaira et al. (US 4807969)

With respect to claim 1, Shimodaira teaches a method for forming a glass structure by providing a glass member 7 with a front surface and a rear surface and securing a rigid interlayer 4 to the rear surface of the glass member (Figure 2; column 2, line 60 – column 3, line 4). The reference teaches the interlayer comprising a resin which shrinks as it cures (column 3, lines 15-16); therefore, since the rigid interlayer of the present invention applies a compressive force to the rear surface of the glass member because the resin comprising the interlayer shrinks as it cures (p. 5, last four lines of last paragraph), one would readily appreciate that the rigid interlayer of Shimodaira would also apply a compressive force to the rear surface of the glass member.

Regarding claim 2, the reference teaches securing a reinforcing structure 5 to the rigid interlayer and securing a support member 4a to the reinforcing structure (Figure 3; column 3, lines 24-38).

Regarding claim 6, the reference teaches such (column 2, lines 60-61).

Regarding claim 8, the reference teaches such (column 1, lines 20-24; column 2, line 66 – column 3, line 4; column 4, lines 15-16).

Regarding claim 10, the reference teaches such (column 1, lines 8-9 and 25).

Regarding claim 11, all the limitations were addressed above with respect to claims 1, 8 and 10, except the mirror having a front surface that is associated with light reflection and the resin shrinking as it cures and applying a compressive force to the rear surface of the mirror.

As for the mirror having a front surface that is associated with light reflection, the reference teaches such (Figure 2; column 2, lines 24-25).

As for the resin shrinking as it cures and applying a compressive force to the rear surface of the mirror, Applicant is directed to the commentary made above with respect to claim 1.

Regarding claim 12, the reference teaches such.

Regarding claims 13-14, the reference teaches such (Figure 2; column 2, lines 60-61).

Regarding claim 16, the reference teaches such (Figure 3; column 3, lines 25-38).

Regarding claim 17, the reference teaches the reinforcing structure having an interlayer 5 and a support structure 4a (Figure 3).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 2-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al. as applied to claim 1 above.

Regarding claims 2-4, Schreiber teaches securing a plurality of glass members; therefore, it is within the scope of Schreiber to secure at least three glass members using at least two interlayers (glass, interlayer, glass, interlayer, glass) such that the second glass layer, second interlayer, and/or third glass layer reads on that being claimed by Applicant; especially since it is

well known and conventional to form tri-laminates for the various articles disclosed by Schreiber (column 4, lines 58-65).

Regarding claims 5 and 9, selection of a particular curing temperature would have been within purview of the skilled artisan; it being noted that Schreiber teaches curing times and temperatures may be varied over wide ranges without affecting the results (column 3, lines 24-25).

Regarding claim 6, if it is not taken that Schreiber teaches forming the glass member to a predetermined shape such would have been obvious given that it is well known and conventional in the glass laminate art to form glass members into predetermined shapes (i.e. curved) when using the finished laminate as a safety window, mirror, etc. as disclosed by Schreiber (column 4, lines 58-65).

Regarding claim 7, it would have been obvious to use a vacuum tool to form the glass member to its predetermined shape because such is notoriously well know and conventional in the glass forming art.

Regarding claim 8, please see claim 1 above.

9. Claims 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schreiber et al. as applied to claims 1, 6-8 and 10 above, and further in view of Shimodaira et al. and/or Stang (US 4124277, of record).

With respect to claim 11, all the limitations were addressed above with respect to claims 1, 8 and 10, except the mirror having a front surface that is associated with light reflection and the resin shrinking as it cures and applying a compressive force to the rear surface of the mirror.

As for the resin shrinking as it cures and applying a compressive force to the rear surface of the mirror, Schreiber teaches such (abstract).

As for the mirror having a front surface that is associated with light reflection, such would have been obvious since this is a known characteristic of mirrors, as taught by the collective teachings of Shimodaira (column 2, lines 24-25) and/or Stang (column 3, lines 22-26).

Regarding claim 12, Schreiber teaches such.

Regarding claims 13-14, please see the rejection of claim 6 above.

Regarding claim 15, Schreiber teaches such (column 2, lines 28-40).

Regarding claim 16, Schreiber teaches providing another glass member 10 (= reinforcement structure) and securing it to the rear surface of the mirror (Figure 1).

Regarding claim 17, Schreiber teaches securing a plurality of glass members; therefore, it is within the scope of Schreiber to secure at least three glass members using at least two interlayers (glass, interlayer, glass, interlayer, glass) such that the third glass layer and the adjacent interlayer reads on that being claimed by Applicant.

Regarding claim 18, Schreiber teaches such (column 2, lines 25-27).

With respect to claim 19, all the limitations were addressed above with respect to claims 1-2, 10-13 and 16-18, except a reflective material associated with a surface of the glass panel to effect light reflection. It would have been obvious to have a reflective material associated with a surface of the glass member of Schreiber because such is known in the mirror art, as taught by the collective teachings of Shimodaira (column 2, lines 24-25) and/or Stang (column 3, lines 22-26).

10. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimodaira et al. as applied to claims 1-2, 6, 8, 10-14 and 16-17 above.

Regarding claim 7, it would have been obvious to use a vacuum tool to form the glass member to its predetermined shape because such is notoriously well know and conventional in the glass forming art.

Regarding claim 9, selection of a particular curing temperature would have been within purview of the skilled artisan.

11. Claims 15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimodaira et al. as applied to claims 1-2, 6, 8, 10-14 and 16-17 above, and further in view of Stang.

Regarding claim 15, Shimodaira is unclear as to what type of resin. Selection of such would have been within purview of one having ordinary skill in the art; however, it would have been obvious to use a resin from Applicant's claimed list because such is known in the art, as taught by Stang (column 3, lines 36-39).

Regarding claim 18, Shimodaira is unclear as to a thickness of the glass. Selection of such would have been within purview of one having ordinary skill in the art; however, it would have been obvious to use glass having a thickness that falls within Applicant's claimed range because such is known in the art, as taught by Stang (column 3, lines 18-22).

With respect to claim 19, all the limitations were addressed above with respect to claims 1, 10-13 and 16-18, except a reflective material associated with a surface of the glass panel to effect light reflection and the reinforcing member 5 and support structure 4a being applied to the resin before curing the resin to form the rigid interlayer.

As for the reflective material, Shimodaira teaches reflective material 2 (Figure 2; column 2, lines 24-25).

As for applying the reinforcing member and support structure to the resin before curing thereof, such would have been obvious because such is known in the art, as taught by Stang (reinforcing member 18 and support structure 16 (outermost layer) applied to resin 16 before curing thereof; Figures 2 and 4-5; column 4, lines 10-30).

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimodaira et al. and Stang as applied to claim 19 above and further in view of Becht (US 3607584).

With respect to claim 19, if the claim is interpreted such that the reflective material is present on the glass surface before the resin, reinforcing member and support structure are applied to the glass then it would have been obvious to apply the reflective material of Shimodaira to the glass surface before apply the resin, reinforcing member and support structure because such is a known alternative to applying the reflective material to the glass surface after the other components have been applied thereto, as taught by Becht (column 2, line 71 – column 3, line 5).

13. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stang in view of Shimodaira et al.

With respect to claim 1, Stang teaches a method for forming a glass structure by providing a glass member 12 with a front surface and a rear surface and securing a rigid interlayer 16 to the rear surface of the glass member (Figures 1 and 4-5; column 1, line 29 – column 2, line 4; column 3, lines 15-47; column 4, lines 10-30). It is unclear as to whether the

reference teaches the rigid interlayer applying a compressive force to the rear surface of the glass member.

Stang teaches forming the rigid interlayer 16 by applying a pre-preg (fabric impregnated with uncured epoxy resin; column 3, lines 36-39) to the glass member 12 and then curing the resin (column 1, lines 58-60; column 3, lines 34-47; column 3, lines 10-30). Stang is unclear as to how curing takes place. It is known in the art to form a glass structure, similar to that disclosed by Stang, by applying a pre-preg 3 (fabric impregnated with uncured resin) to a glass member 7 and then curing the resin by heating to form a rigid interlayer 4, wherein the resin shrinks as it cures and applies a compressive force to the rear surface of the glass member, as taught by Shimodaira (see paragraph 6 above for complete discussion).

Therefore, since epoxy resin is thermosetting and must be cured by heating, it would have been obvious to one having ordinary skill in the art to cure the resin of Stang by heating to form the rigid interlayer such that the resin shrinks as it cures and applies a compressive force to the rear surface of the glass member because such is known in the art, as taught by Shimodaira, where this produces a strong/durable interlayer and hence a strong/durable laminate.

Regarding claim 2, Stang teaches securing a reinforcing structure 18 to the rigid interlayer and securing a support member 16 to the reinforcing structure (Figures 2 and 4-5; column 3, lines 34-47).

Regarding claim 3, Stang teaches applying a reinforcing member (glass cloth), applying a resin to the reinforcing member to form the reinforcing structure 16, applying the reinforcing structure to the rigid interlayer 16 and curing the resin to bond the reinforcing structure to the rigid interlayer (column 4, lines 10-30).

Regarding claim 4, Stang teaches such (column 4, lines 19-30).

Regarding claims 5 and 9, selection of a particular curing temperature would have been within purview of the skilled artisan; it being noted that Schreiber teaches curing times and temperatures may be varied over wide ranges without affecting the results

Regarding claim 6, Stang teaches such (Figures).

Regarding claim 7, it would have been obvious to use a vacuum tool to form the glass member to its predetermined shape because such is notoriously well know and conventional in the glass forming art.

Regarding claim 8, please see the rejection of claim 1 above.

Regarding claim 10, Stang teaches such (abstract).

With respect to claim 11, all the limitations were addressed above with respect to claims 1, 8 and 10, except the mirror having a front surface that is associated with light reflection and the resin shrinking as it cures and applying a compressive force to the rear surface of the mirror.

As for the mirror having a front surface that is associated with light reflection, Stang teaches such (column 3, lines 22-25).

As for the resin shrinking as it cures and applying a compressive force to the rear surface of the mirror, Applicant is directed to the commentary made above with respect to claim 1.

Regarding claim 12, Stang in view of Shimodaira teaches such.

Regarding claims 13-14, Stang teaches such (Figures).

Regarding claim 15, Stang in view of Shimodaira teaches such (see claim 1 above).

Regarding claim 16, Stang teaches a reinforcing structure (honeycomb 18 and outermost layer 16) and securing the reinforcing structure to the rear surface of the mirror to support the same (Figures 2 and 4-5).

Regarding claim 17, Stang teaches the reinforcing structure including an interlayer 18 and a support structure 16 (outermost layer).

Regarding claim 18, Stang teaches such (column 3, lines 20-21).

With respect to claim 19, all the limitations were addressed above with respect to claims 1, 10-13 and 16-18, except a reflective material associated with a surface of the glass panel to effect light reflection and the reinforcing member 18 and support structure 16 (outermost layer) being applied to the resin before curing the resin to form the rigid interlayer 16.

As for the reflective material, Stang teaches such (column 3, lines 22-25).

As for applying the reinforcing member and support structure to the resin before curing thereof, Stang teaches such (column 4, lines 10-30).

Response to Arguments

14. Applicant's arguments with respect to claims 1, 11 and 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **571-272-1223**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JESSICA ROSSI
PRIMARY EXAMINER